Set using ISO screws

# TR-1300



#### **SPECIFICATIONS**

Circuit System: 9 transistors (including 1 FET) and

4 diodes superheterodyne, 3 transistors

for AUX. circuit

Frequency Coverage: MW ; 530 - 1,605 kHz (566 - 187 m)

SW-1; 1.6 - 3.5 MHz (187.5 - 86 m)

SW-2; 3.5 - 7.0 MHz (86 - 43 m)

SW-3; 7.0 - 14.0 MHz (43 - 21 m)

SW-4; 14.0 - 26.1 MHz (21 - 11 m)

Intermediate Frequency: 455 kHz

Antenna System: MW; built-in ferrite-bar antenna

SW; built-in telescopic antenna

Power Requirement: Four "D" size flashlight batteries, 6V in

total or house current by 100V, 117V,

220V and 240V.

Power Output: 1.2W (harmonic distortion, less than

10%)

1.7W (maximum)

Current Drain: 25 mA at zero signal, 500 mA at

1.2W output

Maximum Sensitivity: MW; 14µV/m

(at 50 mW output) SW-1; 1.1μV

SW-2; 1.0μV

SW-3; 1.0µV

SW-4; 1.2µV

Selectivity at 1,400 kHz: 45 dB (SHARP position of SELECT.

switch)

35 dB (BROAD position of SELECT.

switch)

**Speaker:** 4" x 6" (10 cm x 15 cm),

Impedance  $8\Omega$ 

**Dimensions:**  $10^{5}/8$ " (W)  $\times$   $8^{3}/4$ " (H)  $\times$   $3^{1}5/16$ " (D)

(270 mm x 222 mm x 100 mm)

Weight: 8 lb 1/2 oz (3.65 kg)



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# SECTION 1 BLOCK DIAGRAM, EXTERNAL AND INTERIOR VIEWS

#### 1-1. BLOCK DIAGRAM

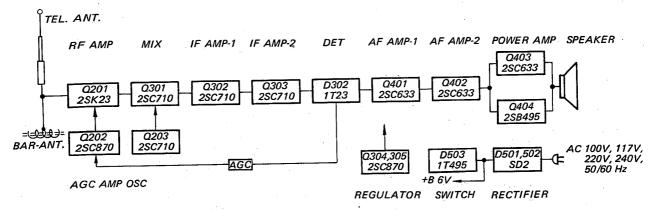


Fig. 1-1

#### 1-2. EXTERNAL VIEW

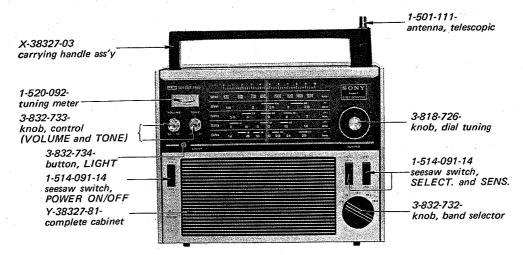


Fig. 1-2

# 1-3. INTERIOR VIEW

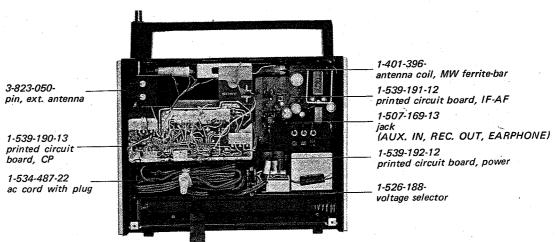


Fig. 1-3

# SECTION 2 DISASSEMBLY AND REPLACEMENT

# 2-1. REAR CABINET REMOVAL

- 1. Place the set rear-side-up on a padded work surface.
- 2. Remove the three screws labeled (A) in Fig. 2-1.
- 3. Lift up the bottom side of the rear cabinet.

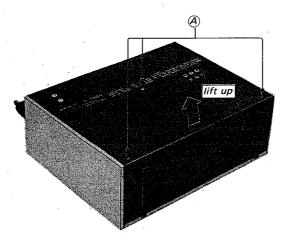


Fig. 2-1 Rear cabinet removal

#### 2-2. CHASSIS REMOVAL

- 1. Pull out the four knobs, VOLUME, TONE, TUNING and BAND SELECTOR. (See Fig. 2-2.)
- 2. Remove a screw labeled (B) in Fig. 2-2.
- 3. Pull out the telescopic antenna.
- 4. Remove the rear cabinet.

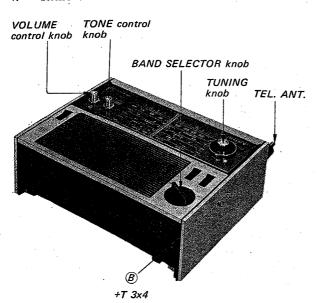


Fig. 2-2 Chassis removal, steps 1 and 2

- 5. Unsolder the four leads, GRY and RED, in Fig. 2-3.
- 6. Remove the two screws labeled © in Fig. 2-3.
- 7. Lift up the chassis as shown in Fig. 2-4.

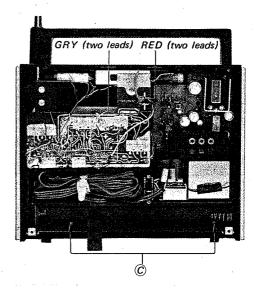


Fig. 2-3 Chassis removal, steps 5 and 6

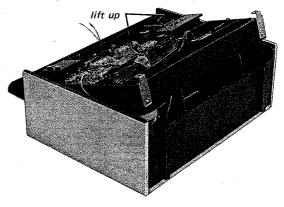


Fig. 2-4 Chassis removal, step 7

#### 2-3. CP CIRCUIT BOARD REMOVAL

- 1. Remove the rear cabinet.
- 2. Remove the chassis.
- Remove the three screws labeled 

   in Fig.
- 4. Unsolder the seven leads and two braided wires in Fig. 2-6.
- 5. Lift up the CP circuit board as shown by the arrow in Fig. 2-5.

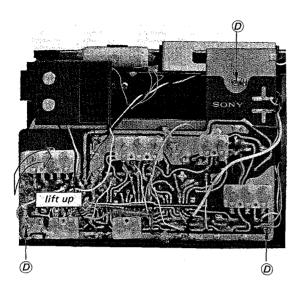


Fig. 2-5 CP circuit board removal, steps 3 and 5

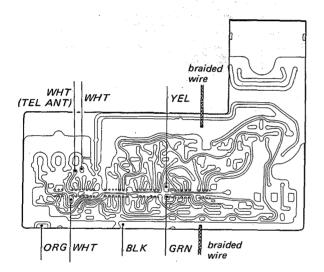


Fig. 2-6 CP circuit board removal, step 4

# 2-4. IF-AF CIRCUIT BOARD REMOVAL

- 1. Remove the rear cabinet and the chassis.
- 2. Pull off the jack holder carefully shown in Fig. 2-7.
- 3. Remove the three screws labeled E in Fig. 2-7.
- 4. Remove the two screws labeled F in Fig. 2-8.
- 5. Unsolder the two leads which are connected to the tuning meter shown in Fig. 2-9.
- 6. Pull out the IF-AF circuit board carefully.

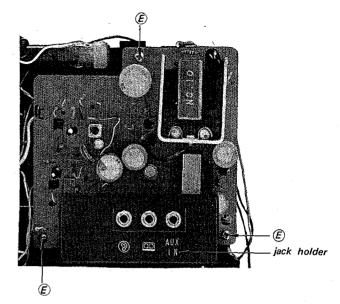


Fig. 2-7 IF-AF circuit board removal, steps 2 and 3

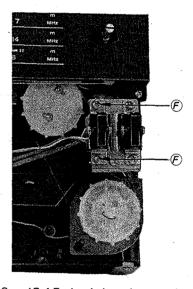


Fig. 2-8 IF-AF circuit board removal, step 4

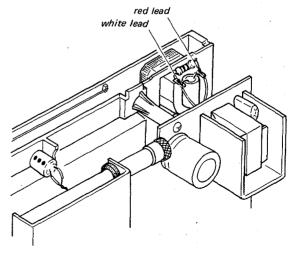


Fig. 2-9 IF-AF circuit board removal, step 5

# TR-1300

#### 2-5. POWER CIRCUIT BOARD REMOVAL

- 1. Remove the rear cabinet and the chassis.
- 2. Unsolder a black lead and a red lead as shown in Fig. 2-10.
- 3. Remove the two screws labeled ⑤ in Fig. 2-10.
- 4. Place the set rear-side-up on a padded work surface.
- 5. Remove the two screws labeled (H) in Fig. 2-11.
- 6. Pull off the transformer bracket carefully. (See Fig. 2-12).
- 7. Straighten the bent portion of two tabs with pliers as shown in Fig. 2-12.
- 8. Pull off the power circuit board.

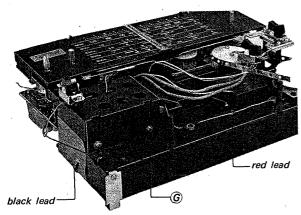


Fig. 2-10 Power circuit board removal, steps 2 and 3

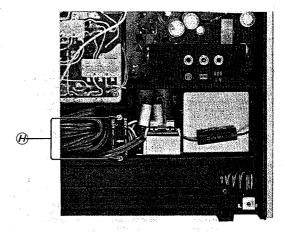


Fig. 2-11 Power circuit board removal, step 5

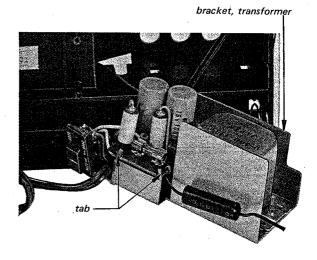
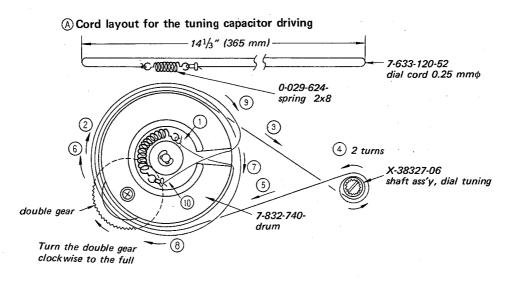
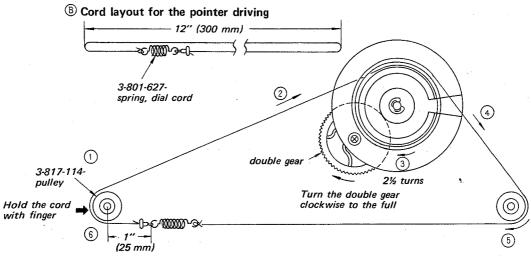
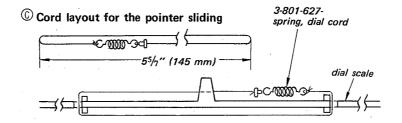


Fig. 2-12 Power circuit board removal, steps 6 and 7

# 2-6. DIAL CORD STRINGING







# SECTION 3 CIRCUIT ADJUSTMENTS

# 3-1. IF ADJUSTMENTS

RF Signal Generator Coupling	RF Signal Generator Frequency	VTVM Connection	Adjust	Remarks
loop antenna	455 kHz (1 kHz 30% a-m)	to earphone jack with 8Ω load resistor in parallel.	IFT-301	Turn the tuning capacitor to minimum capacitance position.(band selector: MW)      Adjust for maximum meter reading.

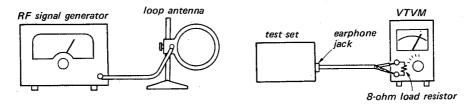


Fig. 3-1 IF adjustment, MW frequency coverage and tracking adjustment setup

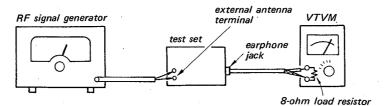


Fig. 3-2 SW frequency coverage and tracking adjustment setup

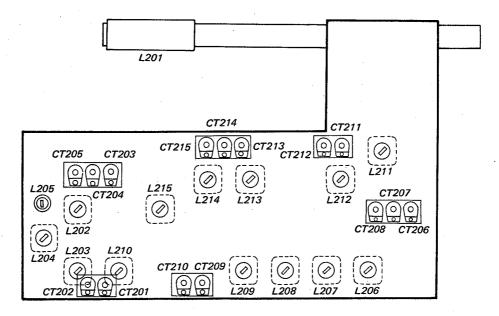


Fig. 3-3 Adjustment parts location (viewed from conductor side of CP circuit board)

# 3-2. FREQUENCY COVERAGE AND TRACKING ADJUSTMENTS

Receiver Control Settings:

VOLUME control: MAX
TONE control: HIGH
SELECT. switch: SHARP

SENS. switch : DX

Rf Signal Generator Modulation:

1,000 Hz 30% amplitude-modulation

VTVM Connection:

to earphone jack with  $8\Omega$  load resistor in parallel

Adjusting Item	Rf Signal Generator Coupling	Rf Signal Generator Frequency	Receiver Dial Setting	Adjust	Remarks
MW Frequency	loop antenna	520 kHz	fully left	MW osc coil L211	Adjust for maximum meter reading.
Coverage	See Fig. 3-1.	1,680 kHz	fully right	MW osc trimmer CT211	
MW Tracking	– ditto –	620 kHz	tune to 620 kHz signal	MW ant coil L201, MW rf coil L206	– ditto –
	- ditto -	1,400 kHz	tune to 1,400 kHz signal	MW ant trimmer CT201, MW rf trimmer CT206	- — ditto —
SW1 Frequency	direct connection to the ext.	1.6 MHz	fully left	SW1 osc coil L212	1111
Coverage	antenna terminal	3.5 MHz	fully right	SW1 osc trimmer CT212	- ditto -
SW1 Tracking	– ditto –	1.6 MHz	tune to 1.6 MHz signal	SW1 ant coil L202, SW1 rf coil L207	– ditto –
	- unto -	3.5 MHz	tune to 3.5 MHz signal	SW1 ant trimmer CT202 SW1 rf trimmer CT207	— aitto —
SW2 Frequency	– ditto –	3.5 MHz	fully left	SW2 osc coil L213	– ditto –
Coverage		7.0 MHz	fully right	SW2 osc trimmer CT213	— unto —

Adjusting Item	Rf Signal Generator Coupling	Rf Signal Generator Frequency	Receiver Dial Setting	Adjust	Remarks
SW2 Tracking	direct connection to the ext.	3.5 MHz	tune to 3.5 MHz signal	SW2 ant coil L203, SW2 rf coil L208	Adjsut for maximum
·	antenna terminal	7.0 MHz	tune to 7.0 MHz signal	SW2 ant trimmer CT203, SW2 rf trimmer CT208	meter reading.
SW3 Frequency	– ditto –	7.0 MHz	fully left	SW3 osc coil L214	– ditto –
Coverage	unto	14.0 MHz	fully right	SW3 osc trimmer CT214	— utito —
SW3 Tracking	– ditto –	7.0 MHz	tune to 7.0 MHz signal	SW3 ant coil L204, SW3 rf coil L209	– ditto –
	and the same of th	14.0 MHz	tune to 14.0 MHz signal	SW3 ant trimmer CT204, SW3 rf trimmer CT209	- utto -
SW4 Frequency	– ditto –	14.0 MHz	fully left	SW4 osc coil L215	– ditto –
Coverage	- unto	26.1 MHz	fully right	SW4 osc trimmer CT215	- <b>u</b> itto -
SW4 Tracking	– ditto –	14.0 MHz	tune to 14.0 MHz signal	SW4 ant coil L205, SW4 rf coil L210	– ditto –
	ditto	26.1 MHz	tune to 26.1 MHz signal	SW4 ant trimmer CT205, SW4 rf trimmer CT210	uitto

# TR-1300 TR-1300

# **SECTION 4**

#### 4-1. SCHEMATIC DIAGRAM

Q201 2SK23 (RF AMP)

# SCHEMATIC DIAGRAM AND MOUNTING DIAGRAM

Q203 2SC710. (OSC)

Q<sub>202</sub> 2SC870 (AGC) D503 |T495 | D501,502 CD2 (SWITCH) (RECTIFIER) POWER CIRCUIT BOARD CP CIRCUIT BOARD iP3 PI R202 470k R220 240 S209 R225 12 R224 100 BATT| S204 R218 560 L213 0.8∨▶ L2I2 R222 560 R205 L206 C220 + \$ + T 3 L502 L501 & F501 AC 100V,117V, 220V,240V 50/60Hz C30I O.OI R30I 68k C505 REC OUT TO SHIELD PLATE SWITCH MODE SI SELECTIVITY ► SHARP 0.30 R412 0.015 J3 EARPHONE S2 SENSITIVITY ☐ DX R315 100 µ 220 3.15 V R303 ₹ □ OFF S4 POWER R414 430 -11-S201~S210 **►** ⊲ SW4 P2 C414 0.01 BAND SELECTOR SW3 IF - AF CIRCUIT BOARD ⊲ SW2 ⊲ SWI Q402 2SC633 Q403,404 2SB495 Q304,305 2SC870 Q401 2SC633 Q303 2SC7IO Q302 2SC710 Q301 2SC710 Mw ► (AF AMP I) (AF AMP 2) (POWER AMP) (REGULATOR) (IF AMP I) (IF AMP 2) (MIX) D302 IT23 (DET) D301 IT23 (AGC)

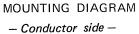
Note: 1. All resistors and capacitors are in ohm and  $\mu F$ , unless otherwise indicated.

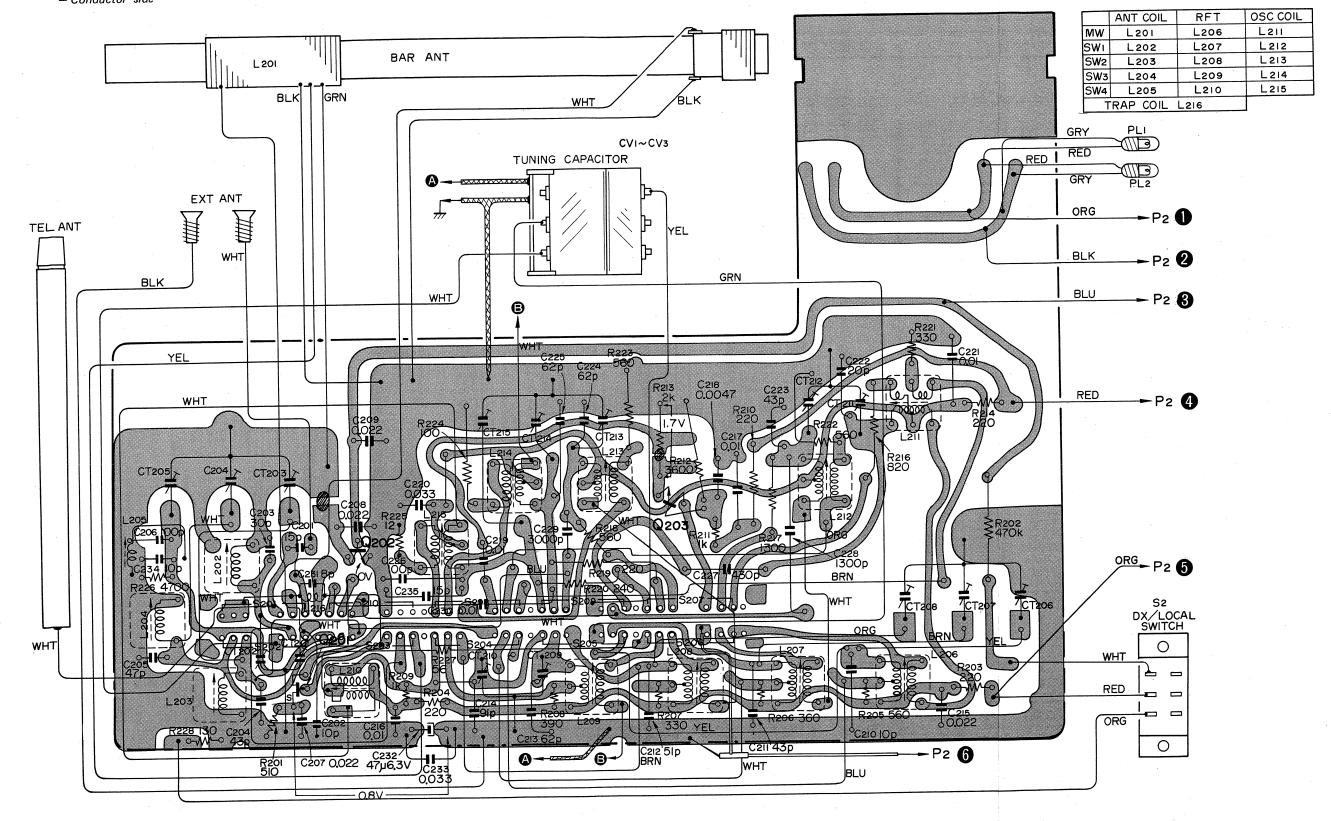
- 2. Capacitor marked with  $\triangle$  is built in i-f transformer.
- 3. Voltage value is measured to ground circuit with a dc voltmeter (20 k $\Omega$ /V) and current value is measured with a dc ammeter.

Voltage and current values are taken with no radio signal received. Variations may be noted due to normal production tolerances.

MW	L201	ANT COIL	L206	RFT	L2II	OSC COIL
SWI	L202	ANT COIL	L207	RFT	L212	OSC COIL
SW2	L203	ANT COIL	L208	RFT	L213	OSC COIL
SW3	L204	ANT COIL	L209	RFT	L214	OSC COIL
SW4	L205	ANT COIL	L210	RFT	L215	OSC COIL

# 4-2. CP CIRCUIT BOARD (P1)

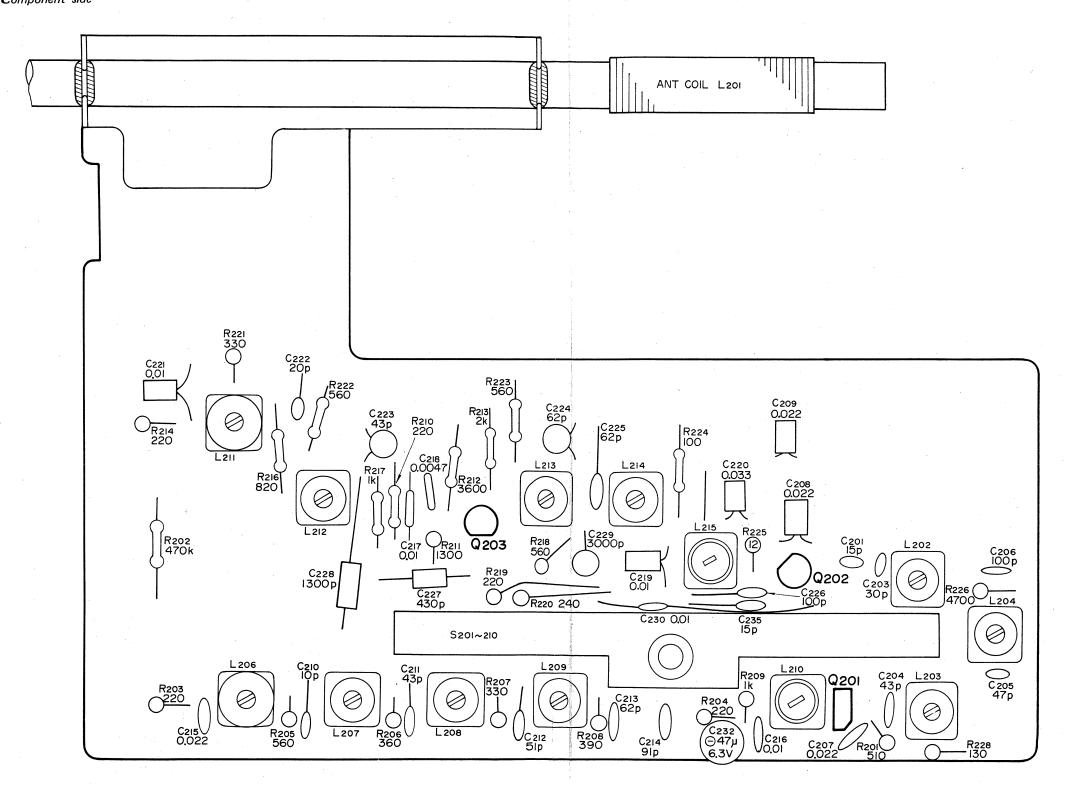




Printed circuit board Part No. 1-539-190-13 **Note:** The following components are mounted on the conductor side. R227, C202, C231, L205, L216, CT201-215.

# 4-2. CP CIRCUIT BOARD (P1) MOUNTING DIAGRAM

- Component side -



.

Q201 2SK23

Q202 2SC870 Q203 2SC710

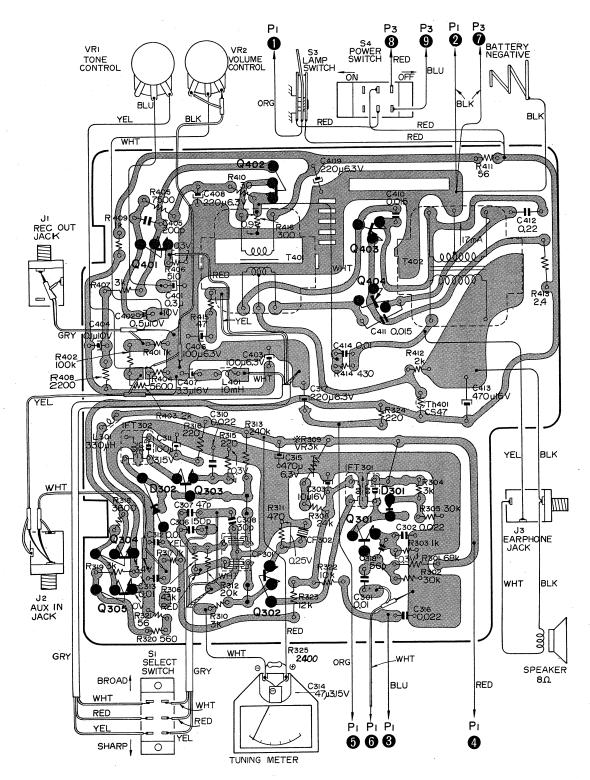
Note: The following components are mounted on the conductor side.
R227, C202, C231, L205, L216, CT201-215.

Printed circuit board Part No. 1-539-190-13

# TR-1300 TR-1300

# 4-3. IF-AF CIRCUIT BOARD (P2) MOUNTING DIAGRAM

- Conductor side -



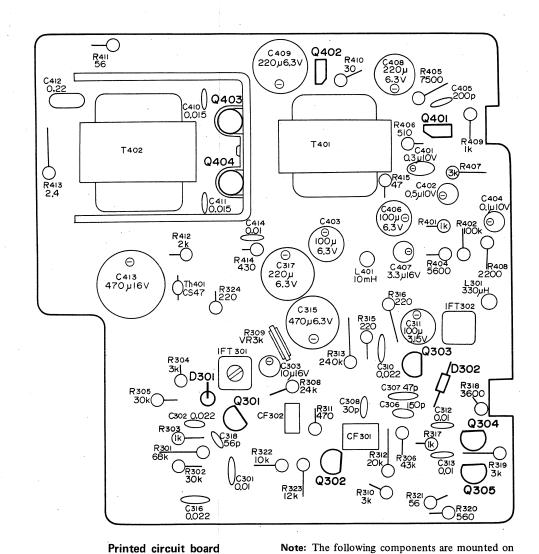
Printed circuit board
Part No. 1-539-191-12

**Note:** The following components are mounted on the conductor side.

R403, R416

# 4-3. IF-AF CIRCUIT BOARD (P2) MOUNTING DIAGRAM

- Component side -



Part No. 1-539-191-12

Q301, 302, 303 2SC710

Q304, 305 2SC870 Q401, 402

2SC633

the conductor side.

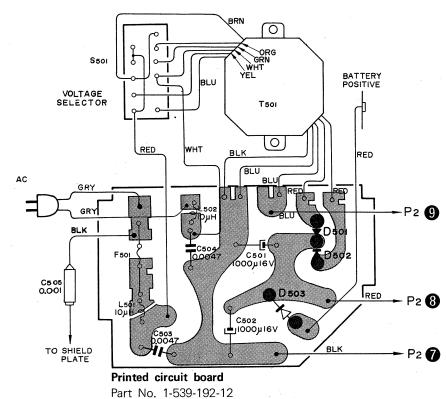
Q403, 404

2SB495

R403, R416

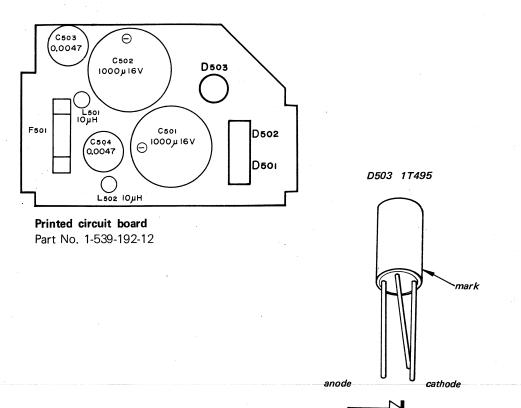
# 4-4. POWER CIRCUIT BOARD (P3) MOUNTING DIAGRAM

- Conductor side -

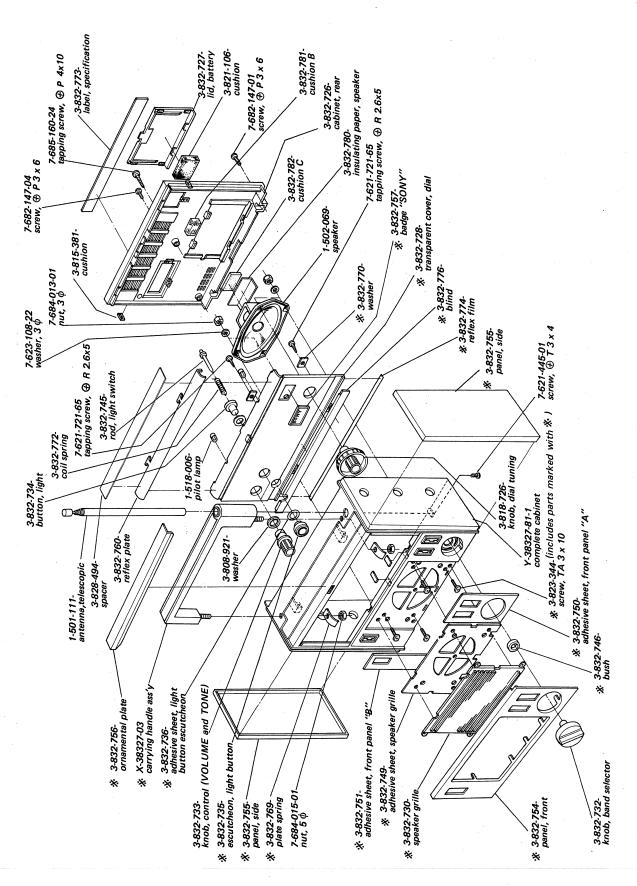


# 4-4. POWER CIRCUIT BOARD (P3)

- Component side -



# SECTION 5 EXPLODED VIEWS



EXPLODED VIEW (1)

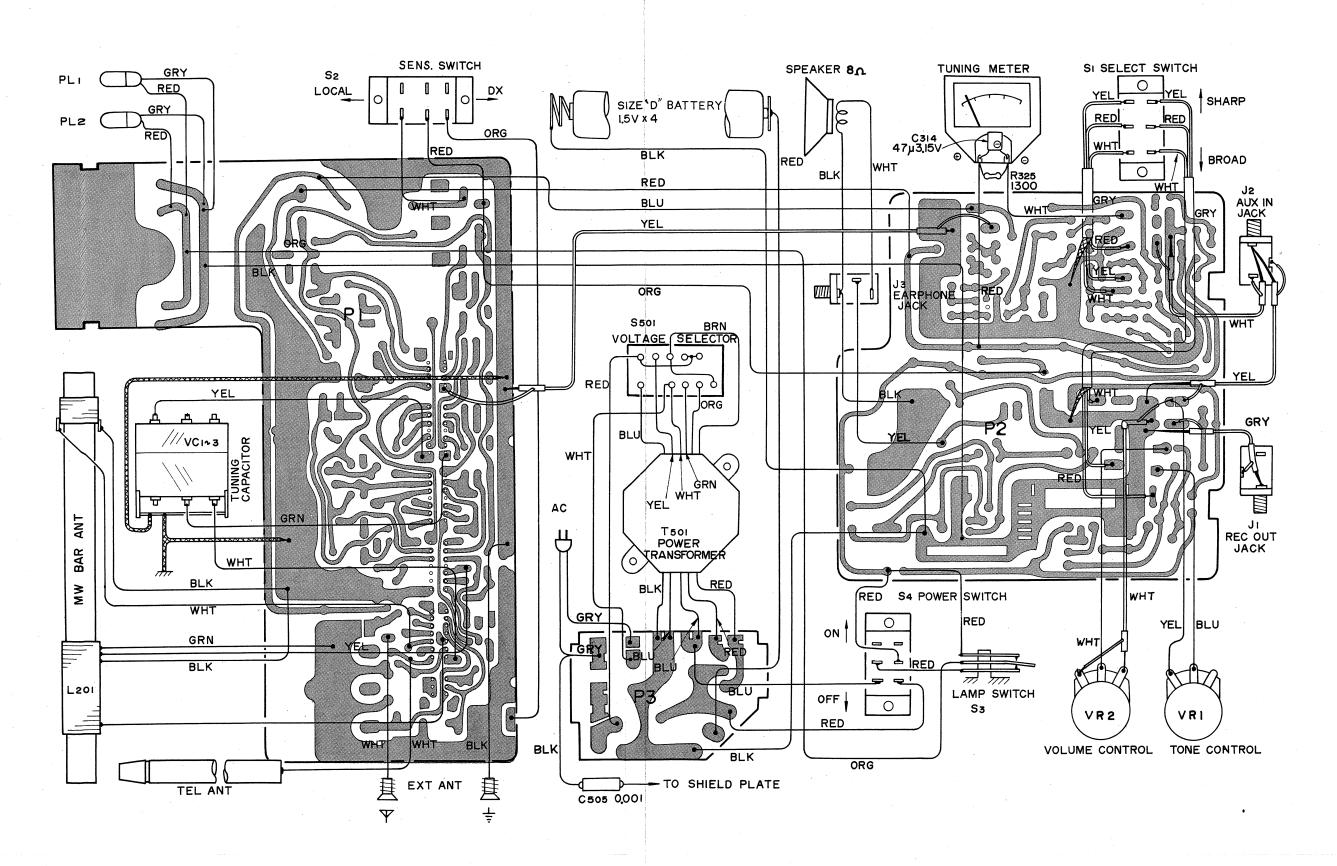
5-2. EXPLODED VIEW (2)

7-621-259-52 screw,  $\oplus$  P 2.6x8

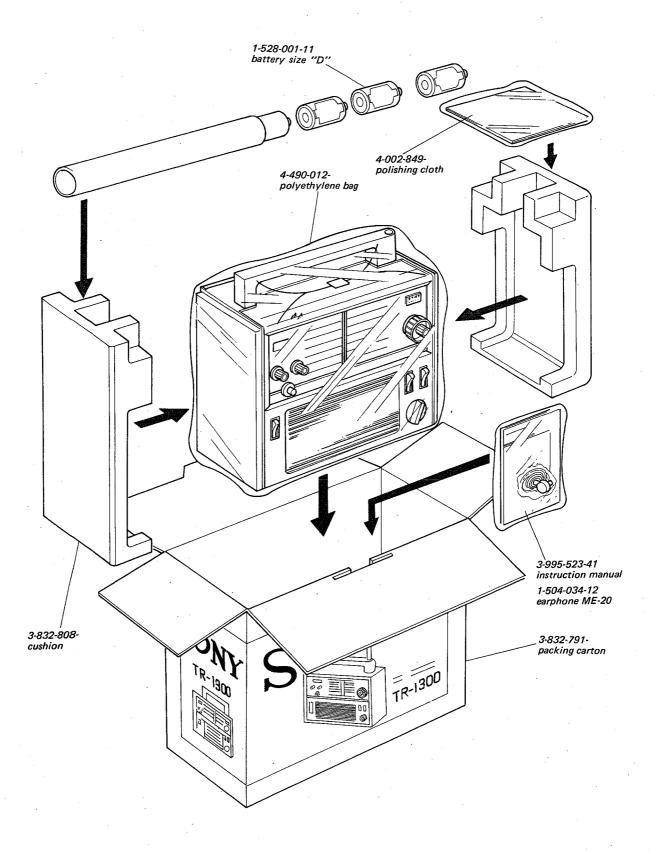
3-827-080double gear A

3-801-627spring, dial cord

#### 5-3. WIRING DIAGRAM



# 5-4. PACKING





SECTION 6
ELECTRICL PARTS LIST FOR TR-1300

Part No.	Descrip	otion	Symbol No.	Part No.	Description
Semico	nductors			Miscella	aneous
1	transistor 2SK	23	TEL. ANT	1-501-111-	antenna, telescopic
	" 2SC	870	SP	1-502-069-	speaker
	" 2SC	710	F501	1-532-128-	fulse
	" 2SC	710		1-533-037-	holder, fuse
	" 2SC	710		1-534-487-22	ac cord with plug
	" 2SC	710	J1, 2, 3	1-507-169-13	jack
	" 2SC	870		1-507-901-12	nut, jack
	" 2SC	870	S1, 2, 4	1-514-091-14	seasaw switch
-	" 2SC	633	S 201 - 210	1-514-577-	slide switch, band selector
	" 2SC	633	S 501	1-526-188-	voltage selector
	" 2SB	495	PL1, 2	1-518-006-01	pilot lamp
	" 2SB	495	TM	1-502-092-	tuning meter
	diode 1T2	3			•
1 100	" 1T2	3		Resisto	ors
	" CD2	2	R	esistors are all	carbon, ¼W ±5%,
	" 1T4	95			
8-691-002-11	thermistor CS4	7	VR1	1-222-217-	5kΩ TONE control
0 0 2 2 0 3 2			VR 2	1-222-218-	50kΩ VOLUME control
Coils and	Transformers		R 201	1-242-666-	$510\Omega$
		ite bar			470kΩ
	•			· ·	$220\Omega$
				•	$220\Omega$
i					560Ω
		,	-		360Ω
		· •			330Ω
					390Ω
					1kΩ
					220Ω
_					$1300\Omega$
					3600Ω
					2kΩ
					220Ω
			1	1212007	- discarded -
			l l	1-242-671-	820Ω
		1 × 1			1300Ω
,	-	330µH			560Ω
	-		1		220Ω
		1	i	1-242-658-	240Ω
		i i			330Ω
				l j	560Ω
		1			560Ω
		•			100Ω
			i i		24Ω
		vor			4700Ω
		put	R227	1-242-643-	56Ω
1-427-425-	" out				
	Semico 8-691-002-11	transistor   25K	Transistor   28K23   28C870   28C710   28C710   28C710   28C710   28C710   28C870   28C870   28C870   28C870   28C870   28C633   28C633	transistor 25K23	transistor 2SK23

R 301			Symbol No.	Part No.	2000,	iption ————
	1-242-717-	68kΩ	CT203-205,	1-141-015-	trimmer capacite	or, 3 unit
R302	1-242-708-	30kΩ	206~208,			
R 303	1-242-673-	1kΩ	213-215			
R304	1-242-684-	3kΩ	C201	1-101-899-	15pF	ceramic
R305	1-242-708-	30kΩ	C202	1-101-960-	10pF	"
R306	1-242-712-	43kΩ	C203	1-101-900-	30pF	"
R307		- discarded -	C204	1-101-879-	43pF	"
R308	1-242-706-	24Ω	C205	1-101-881-	47pF	"
R309	1-222-810-	VR 3kΩ	C206	1-101-963-	100pF	"
R310	1-242-684-	3kΩ	C207	1-105-837-12	0.022μF	mylar
R311	1-242-665-	470Ω	C208	1-105-837-12	$0.022 \mu \mathrm{F}$	"
R312	1-242-704-	20kΩ	C209	1-105-837-12	$0.022 \mu F$	"
R313	1-242-730-	240kΩ	C210	1-101-960-	10pF	ceramic
R314		- discarded -	C211	1-101-879-	43pF	"
R315	1-242-657-	220Ω	C212	1-101-883-	51pF	"
R316	1-242-657-	220Ω	C213	1-101-887-	62pF	11
R317	1-242-673-	1kΩ	· C214	1-101-895-	91pF	'n
R318	1-242-686-	3600Ω	C215	1-105-837-12	0.022μF	mylar
R319	1-242-684-	3kΩ	C216	1-105-833-12	0.01µF	"
R320	1-242-667-	560Ω	C217	1-105-833-12	0.01µF	"
R321	1-242-643-	56Ω	C218	1-105-829-12	$0.0047 \mu F$	"
R322	1-242-697-	10kΩ	C219	1-105-833-12	0.01µF	,,
R323	1-242-699-	12kΩ	C220	1-105-833-12	0.01μF	,,
R324	1-242-657-	220Ω	C221	1-105-833-12	0.01μF	"
R325	1-242-681-	2400Ω	C222	1-101-898-	20pF	ceramic
R401	1-242-673-	1kΩ	C223	1-101-879-	43pF	11
R401	1-242-073-	100kΩ	C224	1-101-887-	62pF	"
	1-242-721-	2kΩ	C225	1-101-887-	62pF	. ,,
R403	1-242-691-	5600Ω	C225	1-101-963-	100pF	,,
R404	1-242-694-	7500Ω	C227	1-101-505	430pF	,,
R405		510Ω	C221	1-103-618-	1300pF	,,
R406	1-242-666-	1	C228 C229	1-103-626-	3000pF	,,
R407	1-242-684-	3kΩ	C229 C230	1-105-833-12	0.01µF	mylar
R408	1-242-681-	2200Ω	C230	1-103-833-12	8pF	ceramic
R409	1-242-673-	1kΩ <sup>3</sup>	C231	1-102-310-	· -	electrolytic
R410	1-242-636-	30Ω	C232	1-121-322-	$0.033\mu$ F	mylar
R411	1-242-643-	56Ω	C234	1-103-839-12	10pF	ceramic
R412	1-242-680-	2kΩ		1-101-900-	15pF	" .
R413	1-244-810-	2,4Ω	C235 C301	1-101-899-	0.01µF	mylar
R414	1-242-664-	430Ω	C301 C302	1-105-833-12	0.01μΓ	my tai
R415	1-242-641-	47Ω	C302 C303	1-103-837-12	0.022μF 10μF 16V	electrolytic
R416	1-242-660-	300Ω	1	1-1 21-34 /-	- discarded -	orcerory ric
Capacitors		C304		- discarded -		
			C305	1 107 120		mice '
CV1~3	1-151-201-	tuning capacitor	C306	1-107-138-	150pF	mica
CT 201, 202	1	trimmer capacitor, 2 unit	C307	1-101-881-	47pF	ceramic
209, 210			C308 C309	1-101-900-	30pF  - discarded -	. "

Symbol No.	Part No.	Description	Symbol No.	Part No.	Desc	ription
C310	1-105-837-12	0.022μF mylar	C406	1-121-291-	100μF 6.3V	electrolytic
C311	1-121-290-	100μF 3.15V electrolytic	C407	1-121-344-	3.3μF 16V	<i>"</i>
C312	1-105-833-12	0.01μF mylar	C408	1-121-295-	220μF 6.3V	"
C313	1-105-833-12	0.01μF "	C409	1-121-295-	220μF 6.3V	"
C314	1-121-486-	47μF 3.15V electrolytic	C410	1-105-835-12	0.015μF	mylar
C315	1-121-359-	470μF 6.3V "	C411	1-105-835-12	$0.015 \mu F$	"
C316	1-105-837-12	$0.022\mu F$ mylar	C412	1-105-849-12	0.22μF	"
C317	1-121-295-	220μF 6.3V electrolytic ν	C413	1-121-727-	470μF 16V	electrolytic
C318	1-101-885-	56pF ceramic	C414	1-105-833-12	0.01µF	mylar
C401	1-127-021-	0.3μF 10V aluminum solid	C501	1-121-186-	1000µF 16V	electrolytic
C402	1-127-022-	0.5μF 10V "	C502	1-121-186-	1000μF 16V	"
C403	1-121-291-	100μF 6.3V electrolitic	C503	1-115-071-	0.0047µF	metalized paper
C404	1-127-019-	0.1µF 10V aluminum solid	C504	1-115-071-	0.0047µF	"
C405	1-107-138-	200pF mica	C505	1-115-097-	0.001µF	"

When ordering replacement parts, you should use PART NUMBER listed on the PARTS LISTS or shown in the EXPLODED VIEW. The symbol number should not be used for ordering purposes.

— nardware N	Officiature ——
P - Pan Head Screw	E - Retaining Ring (E Washer)
K - Flat Countersunk Head Screw	W Washer SW Spring Washer
B - Binding Head Screw	LW – Lock Washer
RK - Oval Countersunk Head Screw	N — Nut — Example —
T - Truss Head Screw	Type of Slit
R - Round Head Screw	P 3 × 10     Length in mm (L)
F - Flat Fillister Head Screw	Diameter in mm (D)
SC - Set Screw 🖨 5	Type of Head

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# Complete Spare Parts List for TR-1300

August, 1969

Part No.	<u>Description</u>	Unit <u>Price</u>
	A. <u>Cabinet and Appearance Items</u>	
Y-38327-81-1 X-38327-01- X-38327-03- 3-832-726- 3-832-728- 3-832-728- 3-832-729- 3-832-730- 3-832-749- 3-832-750- 3-832-751- 3-832-751- 3-832-756- 3-832-756- 3-832-757-	Cabinet Ass'y, main	- 0.36 - 0.11 - 0.43 - 0.28 - 0.94 - 0.11 - 0.04 - 0.02 - 0.59 - 0.43 - 0.11
3-832-758- 3-832-759- 3-832-773-	Ornamental Plate, antennaOrnamental Plate, jackLabel, specification	- 0.03 - 0.06
3-832-732- 3-832-733- 3-832-734- 3-818-726-	* * * * *  Knob, band selector	- 0.10 - 0.02
X-38327-02- X-38327-04- X-38327-05- X-38327-06-	B. Mechanical Parts  Pointer Ass'y	- 0.17 - 0.13

<u>Part No</u> .	<u>Description</u>	Price
x-38327-07-	Sprocket Ass'y, belt drive	\$0.05
3-832-735-	Escutcheon, lamp button	0.01
3-832-736-	Adhesive Sheet, escutcheon	0.01
3-832-737-	Flange Collar	0.02
3-832-738-	Holder, jack	0.04
3-832-739-	Holder antenna	U.UJ
3-832-740-	Drum	0.04
3-832-742-	Drum	0.08
3-832-743-	Follow Sprocket	0.06
3-832-744-	Adjusting Plate follow sprocket	0.05
3-832-745-	Rod, lamp switch	
3-832-746-	Bush	0.02
3-832-747 <b>-</b>	Cushion tuning meter	U.Ul
3-832-748-	Spacer: adjusting plate	0.01
3-832-752-	Chassis	0,50
3-832-753-	Bracket, telescopic antenna	0.04
3-832-760-	Reflex Plate	0.15
3-832-761-	Guide Plate, pointer	0.04
3-832-762-	Bracket switch	0.05
3-832-763-	Bracket, cabinet rear	
3-832-764-	Bracket tuning capacitor	0.03
3-832-765-	Bracket, volume	0.04
3-832-766-	Contact Plate, battery positive	0.02
3-832-767-	Contact Spring, battery negative	0,03
3-832-768-	Holder ferrite bar antenna	
3-832-769-	Plate Spring Washer	0.03
3-832-770-	Washer	0.01
3-832-771-	Retainer, wire spring	<b></b> U,U2
3-832-772-	Pail Carina Laboration	
3-832-774-	Reflex Film	0.02
3-832-775-	Heat Sink	0.06
3-832-777-	Chassis, transformer	0.12
3-832-778-	Retainer	0.02
-0-029-624-	Spring 2 x 8	6.01
3-450-048-	Clamper, transistor	0.03
3-801-627-	Spring, dial cord	0.01
3-806-315-	Felt Ring	0.01
3-808-921-	Washer	0.01
3-817-114-	Pulley	0.01
3-819-527-	Ribbon	0.02
3-820-617-	Cushion, tuning capacitor	0.02
3-821-106-	Cushion, battery lid	0.02

<u>Part No</u> .	<u>Description</u>	Unit <u>Price</u>
3-823-344- 3-824-174- 3-824-178- 3-827-080- 3-827-081- 3-827-087-	Screw, machine TA 3 x 10	\$0.01 
	C. <u>Electrical Parts</u>	
1-539-190-11 1-539-191-11 1-539-192-11 1-526-188- 1-532-127- 1-533-037- 1-534-487- 1-501-111- 1-502-069- 1-507-169-13 1-507-901-12 1-514-091- 1-518-006- 1-520-092	Printed Circuit Board, CP	0.35 0.04 0.01 0.27 0.71 0.71 0.05 0.05 0.07
3 /01 201	Coil and Transformer	
1-401-201- 1-401-397- 1-401-398- 1-401-400- 1-401-396-	Trap Coil	0.05
1-403-137- 1-403-145- 1-403-154- 1-403-168- 1-405-399- 1-405-400-	Transformer, AM/IF	0.10 
1-405-401-	Osc. Coil, SW2	0.11 0.11

Part No.	Description_		Unit <u>Price</u>
1-101-879- 1-101-881- 1-101-883- 1-101-885- 1-101-887- 1-101-895- 1-101-963- 1-102-810-	C204,211,223 C205 C212 C307,318 C213,224,225 C214 C206-2,226-2 C231	43pF ±10%	0.02 0.02 0.02 0.02 0.02
	Styrol Capacitor		
1-103-616- 1-103-628- 1-103-636-	C227 C228 C229	430pF <u>+</u> 5% 1300pF <u>+</u> 5% 3000pF <u>+</u> 5%	0.03 0.04 0.04
	<u>Mylar Capacitor</u>		
1-105-829-12 1-105-833-12	C218 C215,217,219,221,	0.0047μF <u>+</u> 20%	0.02
1-105-835-12	230,313,314,312, 301 C410,411	0.01μF ±20% 0.015μF ±20%	0.02 0.02
1-105-837-12	C207,208,209,216, 302,310	0 022uF +20%	0.03
1-105-839-12 1-105-849-12	C231,220 C412	0.033μF ±20% 0.22μF ±20%	0.09
en e	Electrolytic Capaci	tor (Mica)	
1-107-138-	C405,306	200pF <u>+</u> 10%	0.02
	Electrolytic Capaci	<u>ltor</u>	
1-121-344- 1-121-347- 1-121-322- 1-121-290- 1-121-291- 1-121-295- 1-121-359- 1-121-727- 1-121-186-	C407 C303 C232 C311,409 C403 C317,408,409 C315 C413 C503,504	3.3µF 25WV +150 -10% 10µF 16WV +100 -10% 47µF 6.3WV +100 -10% 100µF 3.15WV +100 -10% 100µF 6.3WV +100 -10% 220µF 6.3WV +100 -10% 470µF 6.3WV +100 -10% 470µF 16WV +100 -10% 1000µF 16WV +200 -10%	0.04 0.04 0.05 0.05 0.07 0.07

Part No.	<u>Description</u>		Unit <u>Price</u>		
	Electrolytic Capacitor (Paper)				
1-115-071-	C501,502	0.0047μF <u>+</u> 20%	- \$0.09		
	<u>Electrolytic Ca</u>	pacitor (Alox)			
1-127-019- 1-127-021- 1-127-022-	C404 C401 C404	0.1µF 10WV ±20% 0.3µF 10WV ±20% 0.5µF 10WV ±20%	- 0.05 - 0.05 - 0.06		
	D. <u>Screw, Nut</u>	(per 100)			
	Screw, machine				
7-621-259-25 7-621-259-52 7-621-259-72 7-621-147-01 7-621-147-04 7-621-149-01	(+) P 2.6 x 4 (+) P 2.6 x 8 (+) P 2.6 x 12 (+) P 3 x 6 (+) P 3 x 6 (+) P 3 x 10	(for Tuning Capacitor) (for Double Gear) (for Cord Stopper) (for Tuning Shaft, Telescopic Antenna Holding Bracket) (for Rear Cabinet) (for Tuning Capacitor,	- 0.26/100 - 0.34/100		
7-621-158-01 7-621-445-01	(+) P 4 x 4 (+) T 3 x 4	Transformer Chassis) (for Switch) (for Telescopic Antenna)	- 0.23/100		
	Screw, self-tap	<u>ping</u>			
7-621-721-65	(+) R 2.6 x 5	(for Sprocket Adjusting Shaft, Rear Cabinet Holding	- 0.30/100		
7-621-722-45	(+) P 3 x 6	Bracket) (for Volume Holder, Dial Scale, Sub-chassis, Slide Switch,	Land Control		
7-621-722-55	(+) P 3 x 8	Switch Holding Plate) (for CP Board, IF Board, Telescopic Antenna Holding Bracket)	- 0.25/100 - 0.25/100		
7-621-730-61 7-685-160-24	(+) P 3 x 12 (+) P 4 x 10	(for Chassis)	- 0.28/100 - 0.27/100		

<u>Part No</u> .	<u>Description</u>		Unit <u>Price</u>
	<u>Nut</u>		
7-684-013-01 7-684-015-01	36 56	(for Speaker) (for Carrying Handle)	\$0.28/100 0.64/100
	Washer, plain		
7-623-105-22 7-623-108-22	2φ (Large) 3φ ( '' )	(for Pulley) (for Speaker, Transformer Chassis)	0.07/100 0.15/100
	Lug		
7-623-508-11	36	(for Dial Drum)	0.13/100
	<u>Eyelet</u>		1998 1998 1998
7-623-611-01	1,5 × 3	(for Dial Cord, Pointer Guide)	0.05/100
	Retaining Ring	e de la companya de La companya de la co La companya de la co	
7-624-104-01	E-2 E-3	(for Dial Drum) (for Ext. Ant. Terminal, Ext.	0.35/100
7-624-106-01	E=3	Ground Terminal)	0.38/100
	<u>Steel Ball</u>		
7-671-116-01	6mm¢	(for Driving Sprocket)	0.57/100
	Dial Cord		1937 Aug
7-633-120-52	0.25¢	1400mm	- 0.02/m